

ABSTRACT OF THE DISCLOSURE

In a process of forming a HA/ZrO₂ complex coating on a Co-Cr-Mo alloy substrate, the substrate is subjected to electrolytic deposition respectively in a ZrO(NO₃)₂ bath and a mixed solution of Ca(NO₃)₂·4H₂O and NH₄H₂PO₄ to respectively
5 form Zr(OH)₄ colloidal layer and Ca₁₀(PO₄)₆(OH)₂ layer. Then, the substrate is subjected to a low-temperature sintering process to convert the two layers into a HA/ZrO₂ complex coating.